SANTA CRUZ BIOTECHNOLOGY, INC.

epsin 2 (F-10): sc-376788

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Elucidation of the mechanism by which receptor tyrosine kinases (RTKs) modulate cellular physiology in response to stimuli is critical to the understanding of growth regulation. Miscues in RTK signaling pathways can result in cellular transformation and ultimately in cancer. Two novel EGF receptor substrates have been described, designated EGF-receptor pathway substrates 8 and 15, or Eps8 and Eps15. Epsin is a binding partner to Eps15. Both epsin and Eps15 have a ubiquitous tissue distribution but are concentrated in presynaptic nerve terminals specialized for the Clathrin-mediated endocytosis of synaptic vesicles. Disruption of epsin function blocks Clathrin-mediated endocytosis. Epsin, along with its binding partner Eps15, is proposed to be involved in the assistance of Clathrin coat rearrangement during Clathrin coated pit invagination. Epsin 2a, and 2b are splicing variants of epsin 2, which is associated with Clathrin-mediated endocytosis and are enriched in the brain in the peri-Golgi region.

REFERENCES

1. Reynolds, F.H., Jr., et al. 1981. Human transforming growth factors induces tyrosine phosphorylation of EGF receptors. Nature 292: 259-262.
2. Ciardiello, F., et al. 1991. Differential expression of epidermal growth factor-related proteins in human colorectal tumors. Proc. Natl. Acad. Sci. USA 88: 7792-7796.
3. Fazioli, F., et al. 1993. Eps8, a substrate for the epidermal growth factor receptor kinase, enhances EGF-dependent mitogenic signals. EMBO J. 12: 3799-3808.
4. Fazioli, F., et al. 1993. Eps15, a novel tyrosine kinase substrate, exhibits transforming activity. Mol. Cell. Biol. 13: 5814-5828.
5. Chen, H., et al. 1998. Epsin is an EH-domain-binding protein implicated in Clathrin-mediated endocytosis. Nature 394: 793-797.
6. Sengar, A.S., et al. 1999. The EH and SH3 domain ESE proteins regulate endocytosis by linking to dynamin and Eps15. EMBO J. 18: 1159-1171.

CHROMOSOMAL LOCATION

Genetic locus: EPN2 (human) mapping to 17p11.2; Epn2 (mouse) mapping to 11 B2.

SOURCE

epsin 2 (F-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 551-578 at the C-terminus of epsin 2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376788 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

epsin 2 (F-10) is recommended for detection of epsin 2a and epsin 2b of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

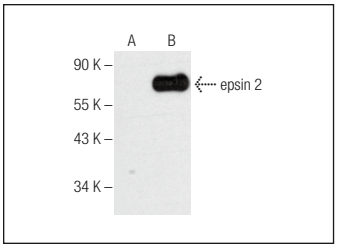
epsin 2 (F-10) is also recommended for detection of epsin 2a and epsin 2b in additional species, including equine.

Suitable for use as control antibody for epsin 2 siRNA (h): sc-40511, epsin 2 siRNA (m): sc-40512, epsin 2 shRNA Plasmid (h): sc-40511-SH, epsin 2 shRNA Plasmid (m): sc-40512-SH, epsin 2 shRNA (h) Lentiviral Particles: sc-40511-V and epsin 2 shRNA (m) Lentiviral Particles: sc-40512-V.

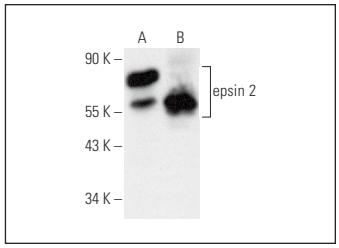
Molecular Weight of epsin 2: 65 kDa.

Positive Controls: epsin 2 (m): 293T Lysate: sc-125306, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

DATA



epsin 2 (F-10): sc-376788. Western blot analysis of epsin 2 expression in non-transfected: sc-117752 (**A**) and mouse epsin 2 transfected: sc-125306 (**B**) 293T whole cell lysates.



epsin 2 (F-10): sc-376788. Western blot analysis of epsin 2 expression in mouse brain (**A**) and rat brain (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Li, L., et al. 2016. epsin 2 promotes polarity establishment and meiotic division through activating Cdc42 in mouse oocyte. Oncotarget 7: 50927-50936.
2. Günther, S.C., et al. 2022. Proteomic identification of potential target proteins of cathepsin W for its development as a drug target for influenza. Microbiol. Spectr. 10: e0092122.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.